JUNE 12, 1967

International Conference on Water for Peace

FOREIGN AGRICULTURE

Including FOREIGN CROPS AND MARKETS

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Water from 13 nations flowing through the Fountain of Humanity at the International Conference on Water for Peace symbolized the unity with which the nations of the world met to discuss the big problem of water. Secretary of Interior Stewart L. Udall, center, has just turned on the fountain.

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WATER FOR PEACE CONFERENCE

—a 91-nation forum on the world's most vital resource

President Johnson calls for global teamwork to assure adequate supplies of fresh water and pledges U.S. support through a Water for Peace Office.

Two weeks ago in Washington, delegates from 91 nations grappled with one of the most challenging problems in the future of mankind—how to meet his growing needs for fresh water. Site of this history-making event in worldwide communication and cooperation was the International Conference and Exposition on Water for Peace, which drew the world's foremost authorities on water resources and its leading producers of water equipment.

President Johnson set the pace for teamwork in the drive to supply pure water for the world's growing population. In his opening address, the President announced that the State Department will set up a Water for Peace Office to direct this country's efforts in world water programs. He called for strong regional offices to spur international cooperation and provide leadership equal to the challenge.

"Frankly, I am not satisfied with the progress now being made," the President told the more than 4,000 delegates and observers. "We are not using all the imagination and enterprise that this task demands. We need agents who will push and prod and shove ahead our international efforts. We need planners to help develop concrete projects, financial experts who know how to interest the world's lending institutions, educators to recruit and train skilled manpower."

The President pledged U.S. support in setting up a network of regional water resource centers where experts from many nations can tackle mutual problems. He set a target date of 2 years for putting the first 2 centers into operation. The United States, he promised, would provide its fair share of the necessary expert assistance, supplies and equipment, and money, and he expressed confidence that international organizations will lend a big hand.

Secretary of the Interior Udall, who served as conference president, also stressed the urgency of teamwork to resolve one of the great issues in the relationship of man to his environment. "Water is a common denominator of the activities and needs of men everywhere," he pointed out. "He can, if he must, make do with precious little of it, but he cannot live without it."

Despite the importance of water to man's well-being—his food, his industry, his recreation—much still needs to be done to make maximum use of the world's water resources. "And time is running out," the Secretary warned. "Water needs are mounting day by day, year by year. Yet the science and technology of water management, with some notable exceptions in the areas of flood control and desalination, still move at little better than a glacial pace."

This dire picture is mitigated somewhat by a growing awareness of the nature and magnitude of the problem and what needs to be done—quickly—to solve it. "We have taken the first step in the intelligent management of water resources," the Secretary said, "with recognition that available supplies of usable water—as we manage it now—are not inexhaustible. The extent of interest and participation in this conference promises better days ahead in the management of the world's water resources."

After a week of discussing water resource development from every conceivable angle, the conferees returned home with a vital mandate: To mobilize the human and technical resources of their own countries and share their manpower and knowledge with other nations to assure adequate development and continuing peaceful use of the world's water supplies.

A keynote speaker was Dr. Carlos P. Romulo, Philippine Secretary of Education—twice Ambassador to the United States and President of the UN Security Council, also a past President of the General Assembly. Excerpted here is his address, "Man's Control of Water."

The Challenge of Water and Why Mankind Must Meet It

. . . The vital importance of water to the sustenance of life, to the attainment of prosperity, and to the promotion of civilization in peace . . . is not new to man. It is as natural and as permanent a condition as the intimate fact that 70 percent of the weight of the human body is made up of water. The International Conference on Water for Peace, therefore, does not meet out of fear of a newly risen menace, but from a confidence in man's capacity through his imagination and resolve to respond to a challenge, if challenge it is, that is a permanent condition of the life of mankind.

What is the measure of this challenge? I believe that it is not useful to say, as some have said, that continued growth in the world population and in the rate of water use on the one hand, and a fixed water supply on the other, are in the process of inexorably leading mankind to disaster.

I am more impressed by the calculations of experts who show that, even in many advanced industrial countries, the rate of water use for power and industry, for irrigation, and for public consumption and other purposes does not reach 10 percent of annual precipitation.

To this rate of utilization must doubtless be added the water that is stored by man and by natural processes in reservoirs, plus the losses through evapotranspiration from the soil and in the life-cycle of vegetation. Even so, the resulting gross rate of use of water would not exceed one-fifth of the annual precipitation. Eighty percent, therefore, of the water supply from recurrent precipitation is still unused even in the advanced industrial countries today.

Furthermore, it is necessary to remember that in many cases water is not a static supply but a flow, and this makes possible the multiple use or reuse of water. Both necessity and technology, therefore, have led and enabled man to achieve more than one hundred percent efficiency in the use of given quantities of water. Not supply, but programing and distribution, economics and technology, then become the important elements of the challenge of water.

Challenge to nonindustrial world is graver

But there are many amongst us in this conference who, like myself, do not come from industrial societies. May I say that the challenge of water presents itself to us somewhat differently. Our concern for the state of the world supply fades readily and gives place to the imperative local needs for water for life itself. Year after year, the challenge of water poses problems to our peoples at the most elemental level of challenges to man—i.e., at the precarious level of survival.

Due to lack of irrigation water, the rate of productivity of agricultural food staples other than those intended for export has in many of our countries remained stationary at the levels of 1850; in some countries it has sunk even lower. In South Vietnam, according to a press service report earlier this month, polluted drinking water is as deadly to the villagers as the Viet Cong. In South Asia deep gaping cracks, like great wounds, lacerate the parched infertile fields during protracted droughts. In the Near East, where the silent menace of the desert is ever present, the countries jealousy assert rights of sovereignty not to lakes or rivers, but to every drop of water within their historic territorial jurisdictions. To us, indeed, feeling pulsates in every word in that simple expression, "water is life."

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Malnutrition from insufficient food, disease and short life spans from unclean water, and backward agriculture and poverty from lack of irrigation have been with us for decades. Our societies and cultures have grown around these conditions. These have gone into the shaping of our institutions and values. Until recently, they were part of the natural order of things.

Today they are problems because we think of them as problems. And we have come to think of them as problems because of a profound change in our minds since the last world war. This change arose from the realization that the "natural order of things" was in fact not the natural destiny of mankind, but that there was an alternative order which was at once both attainable and more in keeping with the dignity of man.

Modern man must control Nature

. . . The control of water, as part of the forces of the natural environment, is inseparable from that concept of development wherein men attain mastery over the elements. Those patterns of life are most enduring which derive from a balance between Nature and man, but that balance must be on man's terms. The control of water is inseparable from that concept of development wherein agricultural modernization produces the rising mass incomes that are the precondition for industrial growth. The control of water is inseparable from that concept of development wherein industrialization works hand in hand with science and technology to provide urban population centers with the comforts and amenities of a civilized life.

The basic and pervasive role of water in development, of course, should not lead us into the mistake of believing that water is *the* key to development. Man does not master nature by controlling water alone. Agricultural growth is not achieved only through irrigation. And satisfactory urban living is not assured by dependable water supplies, in the absence of other necessities.

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But whether we think of the challenge of water in the aggregate, as a problem common to all the countries of the world, or think of it separately, as individual problems of our respective peoples, it is appropriate that we are thinking of it now. This international conference would have been premature 50 years ago, as it would be fatally late 50 years from now.

The reason for the timeliness of this conference is the propitious conjunction of three factors: our becoming conscious of the problem of water, the state of science and technology, and, equally important, the state of the conscience of mankind.

It is true that two and even three decades ago hydrologists and other scientists, especially in this country, were perceiving a drop in the water level and relating this to the then significant expansion in the industrial need for water. But it was essentially no more than a problem of local concern. For many other countries their national populations were only half what they are today, and agriculture was not too strained to produce the required food supplies. Besides, even in the United States, the problem was subsequently mitigated by new schemes of storage and distribution, development of alternative sources of industrial power, and improved industrial processing.

It is also true that there remain important gaps in the present knowledge about the hydrologic cycle. In most countries there most certainly is little recorded knowledge of the location and capacity of aquifers. Engineers, not to say oceanographers and meteorologists, would be in short supply in many countries. Nevertheless, there has been a veritable explosion of scientific and technological knowledge that was undreamed of less than three decades ago. . . .

If a water-for-peace program were to be formulated and adopted, the situation would be significantly improved. At any rate, there is no reason why the scientific knowledge and technological capability that have developed so successfully in the fields of manufacturing, transportation, construction, and space research cannot with equal success develop for water research and water control.

Finally, it is of exceeding significance that the trend of recent years indicates progressively conscientious efforts among the nations to join in the alleviation of human hardship and the enhancement of human opportunities. . . .

Already regional seminars on irrigation have been held in the Far East and Near East-South Asia regions. International government cooperation has been achieved, in concrete ways, for geophysics and travel. Programs of people-to-people cooperation and assistance have been established and continue to flourish, independent of and unrelated to governmental relations. The education of the ignorant, the feeding of the hungry, the curing of the sick, and the care of the orphaned and the aged, are among these.

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This conference will inventory the new tasks and purposes to which will be addressed the highest attainments of science and the finest instruments of technology. It will not be said, I trust, that man charted the cold far side of the planets and navigated amongst the stars, and was unable to harness a waterfall to light up his home, or build a lake and lay down pipes to water the crops for his food.

This conference will also explore the paths of cooperation that men must travel together for the successful application of technology. Those paths of cooperation will be defined by the human purposes we share, in obedience to the conscience of mankind.

Water's Role Crucial in World Effort To Increase Food Yields

Dr. B. R. Sen, Director-General of the Food and Agriculture Organization of the United Nations, addressed the Conference on "Water for Food." Highlights of his remarks follow:

. . . Of the earth's surface, roughly one-third is land and two-thirds water. Of the land surface of 34,000 million acres, we may say that crops occupy roughly 3,600 million acres. Of this, 40 percent is situated in humid climates; another 40 percent in dry climates, where supplementary irrigation could often double production; 15 percent in semiarid climates, where we may assume that water could triple production by increasing yields and sown acres; finally, 5 percent is desert land, where more water could increase production several times.

Grassland, forest grazing, and arable fallow which largely provide man's supply of animal protein occupy about 8,800 million acres. Roughly 85 percent of this area is natural grassland, where production varies tremendously according to rainfall, while 15 percent is improved pasture, where irrigation can justify such investments as fertilizers, better pasture species, and better livestock.

Although the present 9,500 million acres of the world's land area under forest are likely to decline steadily, the ever-increasing demand for wood is being met by more intensive management of highly productive and accessible stands. In addition to wood, the world's forests provide essential cover for watersheds, habitat for domestic and wild animals, and recreation opportunities for the ever-increasing proportion of the world's inhabitants who live in towns.

The fresh waters of the world, comprising rivers, natural and manmade lands, swamps, and ponds, cover about 1,250 million acres. In addition there are innumerable tracts of brackish water with very high fishery potential. . . . Maximum development of inland fishery resources must clearly form an important part of utilization of water for food.

For the foreseeable future, unless some dramatic developments take place such as in the field of desalination of sea water, this pattern of land use is likely to continue, and the main effort will continue to be in increasing the yield per unit of land, rather than extending the area for cultivation at uneconomic cost. In this effort, the role of water will be crucial.

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The major technical problems can be grouped under three heads: Water conservation, increasing water supplies, and more efficient use of available water. Among these the highest priority should be given to the conservation of natural resources. Within the limits imposed by the environment, man can alter infiltration rates and evaporation/transpiration losses, thus affecting the yield and timing of streamflow. Although watershed management implies an emphasis on water, it essentially means the use and treatment of the land in order to achieve the major management objectives without impairing and, if possible, by enhancing the water functions.

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In the long run, however, "new" fresh water will have to be found or produced. Research devoted to weather modification, evaporation control, and desalination is, therefore, of particular importance. The feasibility of signi-

ficant weather modification has still to be demonstrated. WHO's World Weather Watch through satellites and computers should lead to a fuller comprehension of atmospheric phenomena, and to real progress in this field. The technical practicability and economic value of evaporation control over large bodies of water remains questionable. As plastic sheets are quickly torn by winds and waves, modern research is mostly along the lines of mono-molecular films, obtained by spreading chemicals over the water. . . . As for water desalination, technological progress has already brought it within economic range for industrial and urban uses. The cost of the processes in use, however, is at present of the order of 60 U.S. cents per 1,000 gallons. . . . Large-scale irrigation from desalinized water will not be economically feasible for normal agricultural operations till the price falls below 4 cents per 1,000 gallons. . . .

The need to preserve existing water supplies and to supplement them from new sources must not obscure the fact that a more efficient use of available water could produce more immediate and more economic results. A great opportunity for increasing food production lies in the semiarid zones, where more than half the rainfall is wasted owing to improper timing of land preparation and planting, mistaken plant density, useless transpiration by weeds, and wrongly chosen crop varieties. . . . In these conditions, any improvement in yields can mean enormous water savings. Suitable dryland farming equipment and methods exist, as has been demonstrated in the USA and Australia.

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While most industrial processes use less than 100 tons of water per ton of end product, irrigation requires several thousand tons of water for each ton of marketable dry matter produced. . . . Better irrigation practices could result in enormous savings. It has been estimated, for instance, that a 20-percent improvement in irrigation efficiency could reduce the world's additional irrigation water requirements in 1985 from 600 million to 300 million acre-feet per year. . . .

Notable production increases can also be obtained by reclaiming land suffering from an excess of humidity. In the arid zone, waterlogging and salinity may, in the absence of drainage, defeat all efforts to bring more land under irrigation, as occurs in large parts of Iraq, India, and Pakistan. In more humid areas, swamp drainage and impoldering can open up large tracts of land to cultivation. Finally, flood control in both tropical and temperate zones is needed not only to prevent the destruction caused by floods but also as a measure contributing positively to agricultural development and productivity.

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. . . We expect food imports into developing countries to increase for at least a decade even though the agricultural production performance of these countries may improve. We estimate that the food gap (imports plus aid) is likely to be more than doubled by 1975; $8 billion as against $3 billion at present. Nevertheless, by far the greater part of the additional food needs . . . must come from the land and water resources of developing countries which, in terms of potential, are impressively larger than those of the developed countries. To accelerate this process, developed countries will have to review their aid and trade policies generously and imaginatively.

In the development of water for food, the institutional and economic aspects are no less important. If the great promise held out by scientific and technological advance is to be fulfilled, the obstacles presented by human, social, and institutional factors must be successfully met. Antiquated, inequitable water rights and restrictive land tenure practices have hindered irrigation and frustrated the most productive uses of water and land.

Modern Water Management Plays Vital Part in World Stability

Faced with nearly every kind of water problem, the United States has had to develop a broad spectrum of water management techniques. *Donald A. Williams,* Administrator of USDA's Soil Conservation Service, shared with the Water for Peace Conference some of the guidelines this country uses in seeking what he called "man's peace with his environment." "Our aim in the agricultural community," he said, "is to help achieve that peace among all peoples."

Mr. Williams pointed out that modern water management, as practiced in the United States, takes into account the proper relationship between water supply, distribution, drainage, soil type, kind of crop, method of cropping, disease and pest control, fertilizers, technological advances in machinery, climatic conditions, and related influences on food and fiber production.

Since proper water management begins with proper land management, the U.S. Department of Agriculture helps landholders develop practical conservation plans, to make efficient use of the water supply and protect it against siltation and other pollution from unprotected lands. But, said Mr. Williams, "we are going beyond technology—as we must—to the advancement of a sound *public understanding* of the *need* to conserve, develop, and utilize the water supply; to assure that local people are basically responsible for water management; and to build local support for those measures . . . that must be instituted and administered by government on behalf of all the people."

A basic issue at the Conference, Mr. Williams observed, is how sound resource development and progressive agricultural practices can be accommodated to the established order and how that order must in turn be modified to accommodate modern technology.

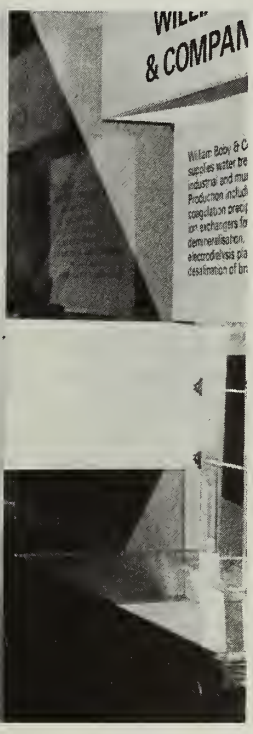
To help the developing nations acquire the agricultural technology they need, the United States is training foreign agricultural workers in U.S. colleges, universities, and government departments, as well as sending its own technicians abroad to help set up agricultural research and extension programs.

For instance, during the past 4 years the Soil Conservation Service has provided technical assistance and training in soil and water management to 20 foreign countries, in cooperation with the Agency for International Development. But SCS aid actually goes back 25 years.

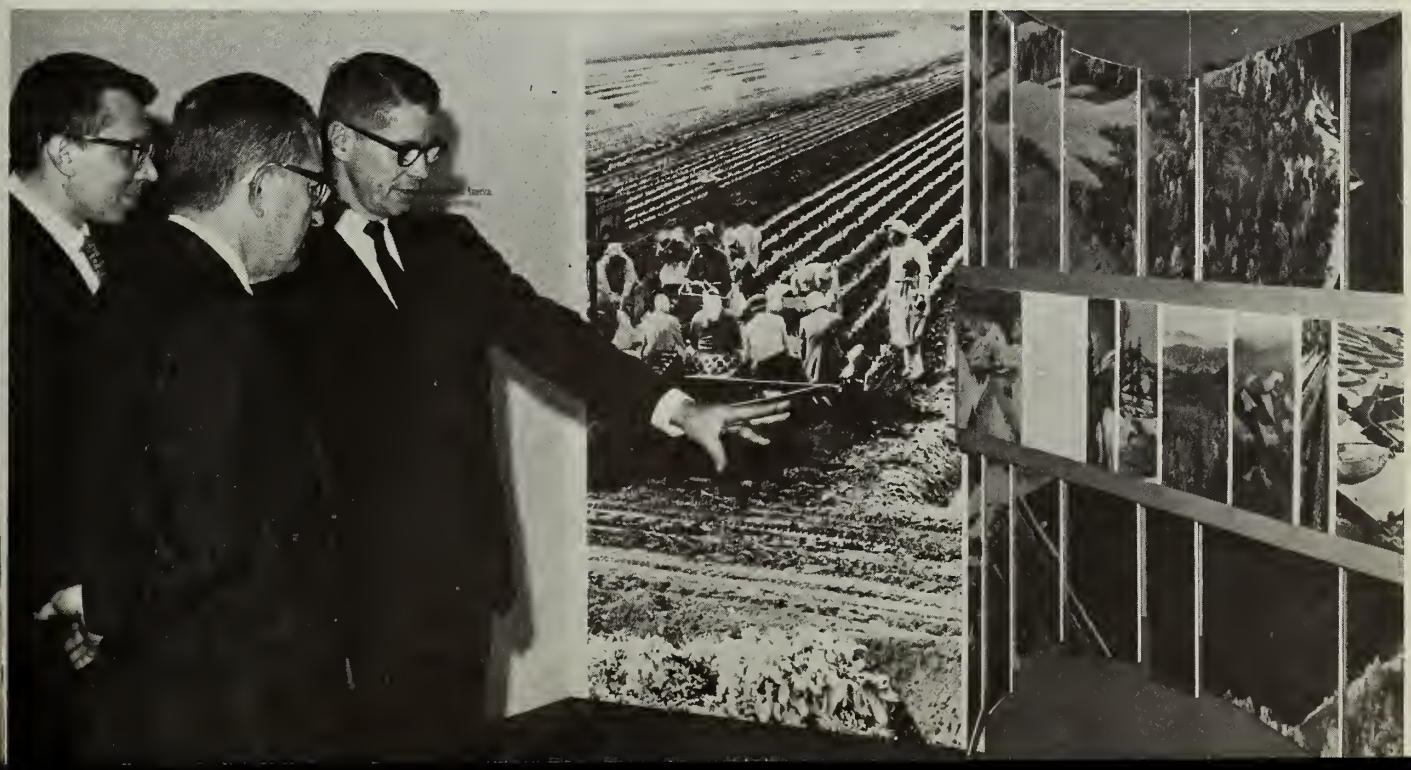
In the United States, modern computers and electronic instruments are speeding up many stages of water management work; and this advancing technology signals developments in other countries. Both old and new technological tools can be put to productive use for the better development of the world's soil and water resources—and a better and more stable way of life for the world's people.

VIP'S From Around the World Attend Water Conference

Few international forums have attracted so many concerned and important persons as the Water For Peace Conference. Right, President Johnson greets a Japanese visitor in the Exposition Hall; and below, British Minister of Technology Anthony Wedgewood Benn points with water cup to feature of his country's exhibit. Also right, Carlos P. Romulo, Philippines Secretary of Education, delivering one of the keynote talks.



Secretary of Agriculture Orville L. Freeman, right, looks over U.S. exhibit with John A. Baker, Asst. Secretary for Rural Development and Conservation, and left, George L. Baka, exhibit coordinator.



World Water Consumption May Be Five Times Greater By Year 2000 as Population Increases

Man is experienced enough to know that he can overcome the technical obstacles to the achievement of his ends, and that he can have all the water he needs—but can he have it in time?

This question was asked by one of the keynote speakers at the opening of the Water for Peace Conference—*Constantinos A. Doxiadis* of Greece, internationally known community planner—who pictures man's needs for water increasing faster than the supply.

Equating population growth with water needs, Mr. Doxiadis stated: "The total population of the earth will be doubled by the end of this century and will continue increasing for a few more generations. From 3.3 billion today it will reach 7 billion or more in the year 2000 and then will level-off to perhaps 20 billion at about the middle of the twenty-first century.

"Domestic and industrial uses of water will multiply continuously until, hopefully, they will level-off. Agricultural use will expand too, at least up to a certain point. In this way, total needs per capita are going to double by the year 2000 and may level-off in a hundred years. Even so, because of the increase of population, total consumption of water will be five times greater for the year 2000—and fifteen times greater 100 years from now."

Mr. Doxiadis saw this increased demand leading to an exhaustion of many available sources of water and to the pollution of much greater areas of lakes and rivers, with the result that some areas will have to be abandoned because there will be either no water or polluted water.

Discussing the inequality of water distribution around the world, Mr. Doxiadis pointed to areas where most of the fresh water is allowed to flow into the oceans and to others where a few drops of water per hour are important. He also referred to the conflict of interests about the use of water which is beginning to be important, saying that this is not only the case in arid regions where scarcity of water has been an age-old problem but also in many of the developed countries with large water resources.

"Man needs water in certain areas at a certain time," he continued, "and if this water is available in different areas at different times, no matter if it is much more than is needed, it is of no use. Consequently, if we do not understand our real needs and act in time, we will find that the present is grim and the future will be much more so.

"To face these increasing problems, man will have to change his attitude toward the collection and use of water. Instead of hunting for it or mining it, he will have to develop and process much more of it. He will have to search for new sources, try to reuse the polluted water, desalinate the sea water, and control much greater quantities of the rainfall which is now wasted in the oceans.

"At the same time, recognizing that the horizontal expansion of his agriculture is reaching its limits, he will proceed to its vertical expansion, i.e., an increased productivity, and this will mean a much more careful use of water resources—minimizing the waste and maximizing the results."

Rain Harvesting, Rainmaking Add to Water Supply

While some delegates to the International Conference on Water for Peace were lamenting Washington's frequent downpours, others were discussing rainfall on a more serious level: How to use it efficiently where it exists and create it where it does not.

Lloyd E. Myers of the U.S. Department of Agriculture spoke of "harvesting" water supplies from rainfall that otherwise would evaporate unused into the atmosphere.

"Calculations of available water supplies are customarily based on streamflow," Mr. Myers said, "and ignore the fact that most precipitation never appears as streamflow. Some of this intercepted water is transpired by useful vegetation or replenishes groundwater supplies, but much of it soaks into dry soil and evaporates. . . . Low-cost methods for capturing a portion of this lost precipitation can provide a valuable source of water supplies."

Among low-cost catchments for harvesting rainfall, Mr. Myers pointed to asphalt, plastic films, and water-repellent chemicals as particularly promising. Asphalt pavements are already being used for livestock water supply, plastic films suitable for many precipitation-harvesting applications are being developed, and successful tests have been made with low-cost chemical sprays that make soils water-repellent and cause nearly 100-percent runoff.

B. J. Mason of the Meteorological Office in Berkshire, England, picked up where Mr. Myers left off. "In addition to considering the better utilization of available water resources," he said, "it is natural to inquire into the possibilities of increasing the available supply by artificially influencing the amount and distribution of rainfall."

During the past 15 years, experiments in many countries have proved it possible to induce light showers, and occasionally a heavy one, by seeding clouds with dry ice or chemical agents. "The important question," according to Mr. Mason, "is whether it is possible to produce significant changes in rainfall on an economically useful scale—say, over hundreds of thousands of square miles.

"Here the problems are much more difficult and the evidence much less convincing. The main difficulty lies in the inherent variability of natural precipitation and our present inability to predict with sufficient accuracy what would have occurred in the absence of treatment." Current understanding of the problems involved and current methods of evaluation are inadequate.

"The atmosphere is infinitely subtle and complex, and if we are to improve on the efficiency of natural mechanisms we shall have to learn a great deal more about them and develop more effective operational and evaluation techniques to prove that weather modification is feasible even on a moderate scale."

The most promising approach to weather modification, according to Mr. Mason, is "to set up a sophisticated mathematical model of the global circulation of the atmosphere on a giant computer and to calculate the effects of various theoretical experiments in the hope of discovering what kind of external stimuli would be necessary to produce major changes in atmospheric behavior."

Australia Sells More Wheat to China

The Australian Wheat Board on May 23 sold Mainland China another 1.5 million metric tons of wheat. This second 1.5-million-ton sale from the current crop brings the total for the year to 3.0 million tons, against only 1.1 million from the 1965 crop and 2.7 million from the 1964 harvest.

This is the first Chinese contract signed for fiscal 1968. In the current year, the Chinese have contracts for about 5 million tons, but with options their imports could rise to around 5.5 million. In 1965-66, by comparison, the Chinese imported 6.3 million tons, and in 1964-65, they took 5.0 million.

Japan Imports More Soybeans and Safflowerseed

Japan's imports of U.S. soybeans in January-March 1967 totaled 508,985 tons (18.7 mil. bu.)—9 percent above imports in the same quarter a year earlier. Total soybean imports were up to 593,478 tons from 567,047 tons last year, even though takings from Mainland China declined.

Soybean meal imports declined substantially. Only 1,950 tons were imported against 6,752 in the previous year.

Safflowerseed imports totaled 40,952 tons—an increase of 2,419 tons. Imports from the United States, however, dropped to 30,624 tons, or about 20 percent less than the 38,019 tons imported in the same 3 months last year. More safflowerseed was imported from Mexico.

JAPAN'S IMPORTS OF SOYBEANS, SOYBEAN MEAL, AND SAFFLOWERSEED

Commodity and major source	1965	1966	January-March 1966	January-March 1967
	1,000 metric tons	*1,000 metric tons*	*1,000 metric tons*	*1,000 metric tons*
Soybeans:				
United States	1,464.9	1,722.1	467.2	509.0
Total	1,847.5	2,168.5	567.0	593.5
Soybean cake and meal:				
United States	41.7	7.0	6.4	1.9
Total	46.3	7.4	6.8	2.0
Safflowerseed:				
United States	112.7	108.6	38.0	30.6
Total	113.4	147.2	38.5	41.0

Japanese Customs Bureau, Ministry of Finance.

Argentine Tung Crop Estimate Revised

According to the Argentine Government's second estimate, the country's 1966-67 tung nut crop is estimated at 102,600 metric tons, compared with the first estimate of 128,600 tons and last year's final estimate of 174,500. Average annual production in the 1962-63/1965-66 period was 112,325 tons.

The sharp decline in nut production this year is reported to reflect some normalization from last year's record crop, as well as damage resulting from root decay in several areas of Misiones Province.

Based on an assumed extraction rate of 15 percent, Argentine tung oil production from the 1966-67 nut crop just harvested, is now unofficially forecast at roughly 34 million pounds compared with the previous forecast of 42 million (*Foreign Agriculture*, May 1, 1967). Production in 1965-66 was estimated at a record 55 million pounds compared with 20.6 million in 1964-65.

Argentine tung oil exports in 1967 through April 30 amounted to 18.6 million pounds against 9.8 million and 15.0 million in January-April of 1966 and 1965 respectively. The sharp increase this year reflects record availabilities at prices markedly below those in recent years.

Colombia's Vegetable Oil Output Sets Record

Colombia's production of edible oils from indigenous oilseeds reached a record high of 53,400 metric tons in 1966—7 percent more than the 49,806 tons produced in 1965 and 29 percent more than in 1964. Increased crops of cottonseed, soybeans, and African palm were responsible for the increase.

Although actively trying to become self-sufficient in edible fats and oils, Colombia imported about 50 percent of its domestic requirements in 1966.

COLOMBIA'S VEGETABLE OIL PRODUCTION FROM DOMESTIC PRODUCTS

Vegetable oil	1964	1965	1966
	Metric tons	*Metric tons*	*Metric tons*
Cottonseed	15,675	14,100	17,550
Sesame	19,000	26,136	24,000
Soybean	5,700	7,050	8,550
African palm	475	2,150	2,800
Other	440	370	500
Total	41,290	49,806	53,400

Cotton Development Institute, Ministry of Agriculture, National Statistics Office, Grasco S.A.

Spanish Cigarette Output and Sales Up

Output of cigarettes by the Spanish Tobacco Monopoly reached another new high of 35.1 billion pieces in 1966. This compares with the previous record of 33.8 billion in 1965. Production of American-type blended cigarettes rose to 1,788 million pieces last year from 1,256 million in 1965. (The record for production of this kind of cigarette was 2,630 million in 1958).

Sales of cigarettes in 1966 included about 32.9 billion domestic-made and about 9.7 billion of imported brands for a total of some 42.6 billion. This compares with total sales in 1965 of 40.5 billion pieces, of which domestic-made accounted for 31.6 billion and imported, 8.9 billion. The gain in sales of imported cigarettes in 1966 was accounted for by those made in the Canary Islands. Sales of brands imported from the United States fell to 1,755 million pieces from 1,957 million in 1965.

Canadian Flue-Cured Tobacco Exports

Canada's 1966 flue-cured tobacco exports were 35.6 million pounds, valued at an average of 102 Canadian cents per pound (95 U.S. cents), compared with 38.9 million pounds, valued at 85 Canadian cents per pound (79 U.S. cents) in 1965.

The United Kingdom purchased 30.5 million pounds of Canadian flue-cured in 1966 at an average price equivalent

to about 99 U.S. cents per pound. Other significant markets in 1966 included West Germany 906,000 pounds, Denmark 712,000, and Trinidad-Tobago 705,000.

Exports of kinds other than flue-cured in 1966 totaled 2.2 million pounds, largely burley tobacco shipped to West Germany and the United Kingdom.

CANADIAN EXPORTS OF FLUE-CURED TOBACCO

Destination	1965	Average '65 export price	1966[1]	Average '66 export price
	1,000 pounds	*U.S. cents per pound*	*1,000 pounds*	*U.S. cents per pound*
United Kingdom	32,536	85.5	30,475	98.6
Germany, West	332	39.7	906	70.8
Denmark	288	72.8	712	104.3
Trinidad-Tobago	126	68.0	705	69.6
Malaysia	377	81.9	482	85.3
United States	680	58.9	392	78.6
Netherlands	418	48.1	376	53.8
Guyana	162	50.9	272	66.8
Jamaica	216	69.1	264	86.1
Australia	52	92.7	181	90.2
Belgium-Luxembourg	529	33.1	116	24.8
Ireland	124	66.5	112	82.9
Hong Kong	1,064	20.2	65	17.2
Others	1,950	.....	573	.....
Total	38,854	79.1	35,631	95.1

[1]Preliminary.
Trade of Canada.

Swiss Tobacco Imports Drop

Swiss imports of unmanufactured tobacco fell sharply last year. At 38.6 million pounds, they were 15 percent below the unusually large imports of 45.4 million in 1965. Demand for leaf for cigarette manufacture was down in 1966, in line with lower cigarette output caused by the January 1966 increase of about 20 percent in retail prices.

The United States supplied 18.2 million pounds last year, compared with 22.0 million in 1965, thus accounting for 47 percent of the total, against 48 percent. Other major suppliers in 1966 included Brazil 3.3 million, Greece 3.1 million, Turkey 2.3 million, Rhodesia 2.2 million, and Indonesia 1.6 million.

SWISS DUTY-PAID TOBACCO IMPORTS

Origin	1964	1965	1966
	1,000 pounds	*1,000 pounds*	*1,000 pounds*
United States	18,448	22,032	18,223
Brazil	3,607	3,458	3,323
Greece	3,417	4,051	3,062
Turkey	2,402	2,715	2,279
Rhodesia	1,308	2,398	2,150
Indonesia	1,722	1,610	1,616
Italy	1,880	1,996	1,302
Bulgaria	374	598	784
Dominican Republic	951	874	739
Soviet Union	766	895	710
France	712	789	642
Others	3,980	3,966	3,779
Total	39,567	45,382	38,609

West Germany Uses More Leaf Tobacco

Usings of leaf tobacco by manufacturers in West Germany and West Berlin during 1966 totaled 308.5 million pounds, compared with 299.5 million for 1965. Continued larger usings in the production of cigarettes more than offset declines for other products.

Leaf used in the production of cigarettes totaled 236.6 million pounds, against 224.0 million in 1965 and 208.8 million in 1964; cigarettes accounted for 76.7 percent of total usings, compared with 74.8 percent in 1965 and 72.9 percent in 1964. Leaf used in cigars dropped to 55.8 million pounds from 58.1 million in 1965, and that used in smoking mixtures fell to 15.9 million from 17.1 million.

WEST GERMAN USINGS OF UNMANUFACTURED TOBACCO BY PRODUCT[1]

Product	1964	1965	1966
	Million pounds	*Million pounds*	*Million pounds*
Cigarettes	208.8	224.0	236.6
Cigars	58.6	58.1	55.8
Smoking mixtures	18.9	17.1	15.9
Chewing tobacco	.2	.2	.1
Snuff	.1	.1	.1
Total	286.6	299.5	308.5

[1]Includes West Berlin.

Usings of U.S. leaf in 1966 totaled a record 91.4 million pounds and accounted for 29.6 percent of total usings, compared with 90.1 million pounds and 30.1 percent in 1965. Flue-cured represented 83.4 percent of the total, followed by burley with 13.1 percent; Maryland and cigar-type tobacco, 1.5 percent each; and Kentucky, 0.5 percent.

Usings of oriental leaf rose to 82.3 million pounds from 74.5 million for 1965. Leaf from Greece, Turkey, Bulgaria, and Yugoslavia showed increases, while that from the USSR declined. As a portion of total usings, oriental represented 26.7 percent in 1966, compared with 24.9 percent in 1965. Also, this percentage gain marked the second year of the upswing after showing a steady 10-year down trend to a 1964 low of 24.1 percent.

The use of exotic leaf (tobacco originating in Brazil, the Dominican Republic, Colombia, Cuba, and Mexico) rose to 24.6 million pounds from 22.3 million for 1965. Reported use of Mexican burley rose to 3.2 million pounds from 0.9 million for 1965 and accounted for the gain. This category excludes tobaccos from Argentina and Paraguay.

Use of other foreign imported tobaccos dropped slightly to 82.4 million pounds from 82.8 million for 1965, but significant shifts occurred among the importers. Reduced usage occurred in imports from all historical suppliers, except Indonesia, and more than offset increased usage of leaf purchased from such countries as Taiwan, Thailand, Mainland China, and South Korea. Use of Rhodesian leaf dropped to 24.6 million pounds, compared with 28.5 million for 1965, and 23.0 million for 1964.

Use of domestic leaf continued downward through 1966, falling to 18.4 million pounds from 19.7 million for the previous year. Combined used of blended filler and homogenized leaf feel to 9.4 million pounds from 10.1 million in 1965 but almost equaled the 9.5 million for 1964.

Stocks of unmanufactured tobacco held by manufacturers and dealers on December 31, 1966, totaled 410.6 million pounds, compared with 350.1 million held on the same date in 1965. Most of the increase was in holdings of oriental leaf and Indonesian cigar-type tobaccos.

Stocks of oriental tobaccos totaled 123.0 million pounds, compared with 102.3 million a year ago. Indonesian tobaccos totaled almost 36 million pounds, or about twice the 1965 level. Stocks of Mexican burley reportedly rose to 9.6 million pounds from only 1.7 million held on December 31, 1965. Likewise, stocks of both Taiwan and South Korean flue-cured were up significantly.

Stocks of U.S. leaf, at 74.9 million pounds, were 11 percent larger than the 67.4 million pounds held on December 31, 1965, and were equivalent to a 9.8-month supply. Rhodesian stocks reportedly totaled 27.5 million pounds, against 43.1 million on December 31, 1965.

WEST GERMAN USINGS OF UNMANUFACTURED TOBACCO BY TYPE OF LEAF[1]

Type of leaf	1964	1965	1966
	Million pounds	*Million pounds*	*Million pounds*
U.S. leaf:			
Flue-cured	71.6	74.7	76.2
Burley	10.9	11.8	12.0
Kentucky[2]	.5	.5	.5
Maryland	1.0	1.3	1.4
Cigar leaf	1.8	1.8	1.3
Subtotal	85.8	90.1	91.4
Oriental[3]	69.2	74.5	82.3
Exotic[4]	22.4	22.3	24.6
Indonesian	7.2	6.7	7.3
Italian	14.2	9.6	6.1
Japanese	9.3	9.5	8.7
Rhodesian	23.0	28.5	24.5
Canadian	5.0	3.7	1.8
Philippine	3.5	4.7	4.4
Polish	.8	.8	.7
Paraguayan	1.8	2.8	2.4
Argentine	2.8	3.8	3.2
Other foreign	11.6	12.7	23.3
Blended filler	4.4	4.7	4.3
Homogenized	5.1	5.4	5.1
Domestic	20.5	19.7	18.4
Total	286.6	299.5	308.5

[1]Includes West Berlin. [2]Source of information does not show breakdown by kinds of tobacco included in this category. [3]Tobacco originating in Greece, Turkey, Bulgaria, Yugoslavia, and the USSR. [4]Tobacco originating in Brazil, the Dominican Republic, Colombia, Cuba, and Mexico.

New Minimum Price for Indian Jute

The Indian Government on May 15 announced a new minimum support for jute, basic grade Assam bottoms, for the 1967-68 crop which is about 12 percent above the level of the previous year. The increase in the support price for raw jute is intended to stimulate local production and reduce dependence on imports from Pakistan.

Israel Has Coffee Marketing Difficulties

Israel has recently had soluble coffee orders from Australia and the Netherlands cancelled. The reason for this is that Israel is not a member of the International Coffee Agreement, and therefore the clause of the Agreement limiting imports from nonmembers would apply.

In calendar 1966, Israel's exports of soluble coffee amounted to 335 metric tons, valued at US$1.1 million. Export trade in this item has been of growing importance to Israel, and two firms have set up special plants catering mainly to this trade. Principal buyers have been Switzerland, the Netherlands, the United Kingdom, Bulgaria, and West Germany. Commercial interests concerned have approached the Ministry of Commerce and Industry to urge that Israel join the Coffee Agreement.

Rains Delay Cotton Planting in Syria

Practically no cotton had been planted in Syria by the end of the second week in May, whereas planting generally begins about April 15 and is completed by May 15. Unseasonable rains that delayed planting of the cotton crop also contributed to recent and continuing floods; these have caused serious damage to much of the country's best irrigated cotton lands along the Euphrates River Valley.

In 1966-67, Syria harvested around 620,000 bales (480 lb. net) of cotton, a sharp drop from 825,000 a year earlier. Some observers feel that the 1967-68 crop could fall to less than half of the 1966-67 crop.

U.S. Cotton Exports Continue To Rise

U.S. exports of all types of cotton amounted to 3,726,000 running bales in the first 9 months (August-April) of the 1966-67 season. This was 55 percent above the 2,410,000 bales for the 1965-66 period and 16 percent above the average of 3,206,000 for the previous 5 seasons.

Exports in April were 288,000 bales, compared with 401,000 in March and 177,000 in April 1966.

U.S. COTTON EXPORTS BY DESTINATION
[Running bales]

Destination	Year beginning August 1				
	Average			Aug.-Apr.	
	1960-64	1964	1965	1965	1966
	1,000 bales	*1,000 bales*	*1,000 bales*	*1,000 bales*	*1,000 bales*
Austria	23	11	3	1	4
Belgium-Lux	121	80	43	37	47
Denmark	14	6	7	5	6
Finland	17	11	8	8	13
France	319	184	108	93	137
Germany, West	269	217	92	81	140
Italy	345	260	102	80	205
Netherlands	110	65	38	34	27
Norway	13	13	10	9	9
Poland & Danzig	125	66	42	42	68
Portugal	21	22	6	5	1
Spain	74	28	10	9	1
Sweden	81	58	59	56	57
Switzerland	74	66	35	32	68
United Kingdom	244	153	131	117	123
Yugoslavia	112	109	169	117	135
Other Europe	17	11	12	11	12
Total Europe	1,979	1,360	875	737	1,053
Australia	61	60	33	28	14
Bolivia	7	5	4	3	4
Canada	353	390	269	225	226
Chile	18	1	3	3	3
Colombia	3	1	57	56	1
Congo (Kinshasa)	6	29	25	20	8
Ethiopia	9	4	20	17	7
Hong Kong	148	150	94	80	146
India	314	243	63	44	195
Indonesia	40	47	(1)	(1)	155
Israel	15	23	5	5	1
Jamaica	4	5	5	5	5
Japan	1,192	990	705	600	1,058
Korea, Rep. of	261	261	301	216	250
Morocco	12	12	12	10	10
Pakistan	14	9	6	6	3
Philippines	123	75	93	67	112
South Africa	41	43	27	23	34
Taiwan	209	203	178	141	295
Thailand	34	55	55	46	50
Tunisia	2	6	13	10	13
Uruguay	6	0	(1)	(1)	0
Venezuela	8	6	5	5	1
Vietnam, South[2]	46	63	73	46	49
Other countries	19	19	21	17	33
Total	4,924	4,060	2,942	2,410	3,726

[1]Less than 500 bales. [2]Indochina prior to 1958; includes Laos and Cambodia.

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Meat Imports Subject to Quota Down in April

U.S. meat imports subject to provisions of the Meat Import Act (Public Law 88-482) totaled 58.8 million pounds in April 1967—7 percent below such imports in April 1966. Imports for the first 4 months of 1967, at 256.6 million pounds, were up 14 percent from the 224.5 million pounds for January-April 1966.

For all of 1967, imports subject to the law are estimated at 900 million—95 million below the level which would trigger imposition of quotas.

U.S. IMPORTS OF MEAT SUBJECT TO MEAT IMPORT LAW (P.L. 88-482)
[Product weight]

Imports	April	January-April
1967:	*Mil. lb.*	*Mil. lb.*
Subject to Meat Import Law[1]	58.8	256.6
Total beef and veal[2]	61.7	276.9
Total red meat[3]	92.2	405.1
1966:		
Subject to Meat Import Law[1]	63.3	224.5
Total beef and veal[2]	64.9	236.8
Total red meat[3]	103.0	377.9
1965:		
Subject to Meat Import Law[1]	32.4	163.7
Total beef and veal[2]	38.4	181.1
Total red meat[3]	68.9	274.8

[1]Fresh, chilled, and frozen beef, veal, mutton, and goat meat. [2]All forms, including canned and preserved. [3]Total beef, veal, pork, lamb, mutton, and goat meat.

Holstein Promotion Sparks Record Exports

Over 85 percent of last year's alltime high U.S. exports of dairy cattle were Holsteins. This preponderance of Holstein exports resulted from market development programs of the Holstein-Friesian Association of America in cooperation with Foreign Agricultural Service.

The 20,488 head of Holsteins exported in 1966 went to 32 countries. In 20 of these countries HFAA representatives had personally carried out promotional activities; in an additional 5 countries an FAS marketing specialist did similar work.

During the past five years of the promotional programs (1962-66) Holstein exports have totaled 77,969, with an estimated minimum value of $38,984,500.

More California Strawberries Air Shipped

Fresh strawberries and asparagus from California have been air shipped to Europe in record amounts so far this year, according to the Federal-State Market News Service of the U.S. Department of Agriculture.

Through May 20, just over 1,800,000 pounds of strawberries and 121,000 pounds of asparagus had been sent via jet to various European markets. Compared with the same period of 1966, strawberry shipments this year have been more than three times as great and asparagus shipments up more than 15 percent.

The strawberries shipped were the equivalent of 100 carlots of 18,000 pounds each. Of these, 31 carlots went to Frankfurt, West Germany; 27 to Stockholm, Sweden; 14 to London, England; 10 to Zurich, Switzerland; and 7 to Paris, France. Smaller quantities went to other cities in the Netherlands, West Germany, Scotland, Switzerland, and Italy. In all the cities except Frankfurt, the strawberries went to the fresh market. In Frankfurt, a large part of them were brought by bakeries.

Since European-grown strawberries are now in season, no additional shipments from California are expected until late August or September. Light shipments will be resumed then and continue to the end of the California strawberry season in November.

All of the air-shipped asparagus went to London, except for 8,000 pounds to Milan. Continental markets prefer white asparagus to the green type from the United States.

Only small quantities of other California fruits and vegetables have been shipped to Europe by air so far this year. The lateness of California tree fruits this season makes it unlikely that there will be any appreciable air shipment of these commodities.